

Lab 6

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Q1: Display the name of students who enrolled in at least one section.

```
SELECT student.sname
FROM Student INNER JOIN std_enrolles_sec
ON Student.SID = std_enrolles_sec.SID
GROUP BY Student.sname;
```

	sname character varying (35) 🔒
1	Jocelyn Bowes
2	Eshaan Barry
3	Chinmaya Mahapatra
4	Iris Chang

Q2: Retrieve course ID, section ID, and Section Type of the sections that have been enrolled by at least on student

```
SELECT DISTINCT course_Section.SecID, course_Section.CID, course_Section.SType
FROM course_Section INNER JOIN Std_Enrolles_Sec
ON course_Section.secID = Std_Enrolles_Sec.secID
AND course_Section.CID = Std_Enrolles_Sec.CID
ORDER BY course_Section.SecID;
```

	secid [PK] character varying (3) 🔒	cid [PK] character (4) 🔒	stype character (3) 🔒
1	1	1030	Reg
2	1	1050	WWW
3	1	1045	WWW
4	1	1480	WWW
5	1	1280	WWW
6	2	1045	WWW
7	2	1030	Reg
8	2	1480	WWW
9	2	1280	Reg
10	3	1045	WWW
11	3	1480	WWW
12	4	1045	WWW
13	5	1045	Req

Q3: Display CID, SecID, and SType of all sections (No matter if a student has enrolled in that section or not) and the name of students who enrolled in that section.

```
SELECT course_Section.CID, course_Section.SecID, course_Section.SType, Student.Sname
FROM course_Section LEFT JOIN std_Enrolles_Sec
ON std_Enrolles_Sec.cid = course_Section.cid
AND std_Enrolles_Sec.secid = course_Section.secid
LEFT JOIN Student
ON std_Enrolles_Sec.SID = Student.SID;
```

	cid character (4) 🔒	secid character varying (3) 🔒	stype character (3) 🔒	sname character varying (35) 🔒
1	1045	2	WWW	Jocelyn Bowes
2	1045	1	WWW	Chinmaya Mahapatra
3	1045	1	WWW	Jocelyn Bowes
4	1030	1	Reg	Chinmaya Mahapatra
5	1480	3	WWW	Chinmaya Mahapatra
6	1480	2	WWW	Chinmaya Mahapatra
7	1050	1	WWW	Chinmaya Mahapatra
8	1050	1	WWW	Jocelyn Bowes
9	1280	2	Reg	Jocelyn Bowes
10	1480	3	WWW	Jocelyn Bowes

Q4: Display the name of all students (no matter if they have enrolled in any sections) and the section number of all sections that they have enrolled

```
SELECT Student.SName, Std_Enrolles_Sec.SecID
FROM Student INNER JOIN Std_Enrolles_Sec
ON Student.SID = Std_Enrolles_Sec.SID
```

	sname character varying (35) 🔒	secid character varying (3) 🔒
1	Jocelyn Bowes	2
2	Chinmaya Mahapatra	1
3	Jocelyn Bowes	1
4	Chinmaya Mahapatra	1
5	Chinmaya Mahapatra	3
6	Chinmaya Mahapatra	2
7	Chinmaya Mahapatra	1
8	Jocelyn Bowes	1

Q5: Display the name of all students and all sections they have enrolled

```
SELECT Student.SName, Course_Section.CID, Course_Section.SecID, Course_Section.SType
FROM Student INNER JOIN Std_Enrolles_Sec
ON Student.SID = Std_Enrolles_Sec.SID
LEFT JOIN Course_Section
ON Std_Enrolles_Sec.SecID = Course_Section.SecID
AND Std_Enrolles_Sec.CID = Course_Section.CID
```

	sname character varying (35) 🔒	cid character (4) 🔒	secid character varying (3) 🔒	stype character (3) 🔒
1	Jocelyn Bowes	1045	2	WWW
2	Chinmaya Mahapatra	1045	1	WWW
3	Jocelyn Bowes	1045	1	WWW
4	Chinmaya Mahapatra	1030	1	Reg
5	Chinmaya Mahapatra	1480	3	WWW
6	Chinmaya Mahapatra	1480	2	WWW
7	Chinmaya Mahapatra	1050	1	WWW
8	Jocelyn Bowes	1050	1	WWW
9	Jocelyn Bowes	1280	2	Reg

Q6: Display the name of student who have not enrolled in any section

```
SELECT Student.SName
FROM Student LEFT OUTER JOIN Std_Enrolles_Sec
ON Student.SID = Std_Enrolles_Sec.SID
WHERE Std_Enrolles_Sec.SID IS NULL
```

	sname character varying (35) 🔒
1	Jack Lei
2	Jagmeet Singh
3	Rodrigo Ferrara

Q7: Display the the name of section which has not been enrolled by any student

```
SELECT Course.CName
FROM Course LEFT OUTER JOIN Std_Enrolles_Sec
ON Course.CID = Std_Enrolles_Sec.CID
WHERE Std_Enrolles_Sec.CID IS NULL
```

	cname character varying (35) 🔒
1	Database Systems

Q8: Retrieve the name of student and number of sections that they have enrolled

```
SELECT Student.SName, COUNT(Std_Enrolles_Sec.SecID)
FROM Student LEFT JOIN Std_Enrolles_Sec
ON Student.SID = Std_Enrolles_Sec.SID
GROUP BY Student.SName
```

	sname character varying (35) 🔒	count bigint 🔒
1	Rodrigo Ferrara	0
2	Jagmeet Singh	0
3	Jocelyn Bowes	5
4	Eshaan Barry	2
5	Chinmaya Mahapatra	13
6	Iris Chang	3
7	Jack Lei	0

Q9: Retrieve the name of students who have taken all courses

```
SELECT Student.SName, COUNT(DISTINCT(Std_Enrolles_Sec.CID))
FROM Student
LEFT JOIN Std_Enrolles_Sec
ON Student.SID = Std_Enrolles_Sec.SID
GROUP BY Student.SName
HAVING COUNT(DISTINCT(Std_Enrolles_Sec.CID)) = 6;
```

	sname character varying (35) 🔒	count bigint 🔒

Q10: Retrieve the CID of courses and the number of students who enrolled in those sections

```
SELECT CID, SecID, COUNT(SID)
FROM Std_Enrolles_Sec
GROUP BY CID, SecID
```

ORDER BY CID, SecID;

	cid character (4) 🔒	secid character varying (3) 🔒	count bigint 🔒
1	1030	1	2
2	1030	2	1
3	1045	1	2
4	1045	2	2
5	1045	3	2
6	1045	4	2
7	1045	5	1
8	1050	1	2
9	1280	1	1
10	1280	2	3

Q11: Retrieve the name of students who are classmates with 'Chinmaya Mahapatra' in all sections that he has enrolled

```
SELECT DISTINCT Student.Sname
FROM Student JOIN Std_Enrolles_Sec
ON Student.SID = Std_Enrolles_Sec.SID
NATURAL JOIN
(SELECT Std_Enrolles_Sec.CID, Std_Enrolles_Sec.SecID
FROM Student JOIN Std_Enrolles_Sec ON Std_Enrolles_Sec.SID = Student.SID
WHERE Student.Sname = 'Chinmaya Mahapatra'
ORDER BY Std_Enrolles_Sec.CID, Std_Enrolles_Sec.SecID)
AS classMates
WHERE Student.SName != 'Chinmaya Mahapatra';
```

	sname character varying (35) 🔒
1	Eshaan Barry
2	Iris Chang
3	Jocelyn Bowes

Q12: Retrieve the name of all students who enrolled in 1045-001

```
SELECT Std_Enrolles_Sec.CID, Std_Enrolles_Sec.SecID, Student.SName
FROM Student NATURAL JOIN Std_Enrolles_Sec
```

WHERE Std_Enrolles_Sec.CID = '1045' AND Std_Enrolles_Sec.SecID = '1'

	cid character (4) 🔒	secid character varying (3) 🔒	sname character varying (35) 🔒
1	1045	1	Chinmaya Mahapatra
2	1045	1	Jocelyn Bowes